

## GENETIC IDENTIFICATION OF DEAD PERSONS: WHICH REFERENCE SAMPLE SHOULD BE USED?

**Gremaud Jean-Luc<sup>1</sup>, Gehrig Christian<sup>2</sup>, Sabatasso Sara<sup>3</sup>, Castella Vincent<sup>4</sup>**

<sup>1</sup>*Section d'identité judiciaire, Police de sûreté valaisanne, Sion*

<sup>2</sup>*Unité de génétique forensique, Centre universitaire romand de médecine légale, Genève*

<sup>3,4</sup>*Unité de médecine forensique et Laboratoire de génétique forensique, Centre universitaire romand de médecine légale, Lausanne*

The identification of a deceased person consists in establishing a connection between this person and reference data. Within this context, DNA analyses permit the use of samples coming from the deceased himself (personal reference) or from persons closely related to the deceased (familial reference).

Over a period of 5 years (2003-2007), 132 unidentified bodies or remains were found in western Switzerland and subjected to genetic analysis. Of these, 33% were found at their home, 28 % deaths were related to traffic (road and railway), 22% were found in the water (lakes, dams or rivers) and 17% outdoors (forests and mountains). About half of the bodies were found on the day of death, the other half remained missing days or even several years.

In 22% of the cases, the corpses were intact and fresh, but the majority of the remains were badly damaged (45% putrefied, 18% burned and 15% skeletalised) rendering the use of DNA analysis indispensable for their identification.

The recommendations presented seek to optimize the genetic identification process. In particular, personal references should be collected while the concerned individual is alive. When this is not possible, several reference samples should be analysed in order to minimize the probability of a fortuitous connection.